



Environmental Health Disparities and Environmental Justice Meeting

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1. A Community-Based Assessment of Vulnerability and Resiliency

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research

Abstract:

Our project seeks to advance the current knowledge on community vulnerability and resiliency by using community-based participatory research (CBPR) to qualitatively assess and improve upon indicators of social vulnerability and resiliency to technological disasters and identify successful strategies for resiliency in resource dependent communities along the Gulf Coast. This poster presents an overview of the community partners involved and how we have used CBPR in four communities to collect formative research data.



2. Addressing Disparities in Safe Drinking Water Access on the Crow Reservation, Montana

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research;
Translation, Dissemination, and
Communication

Abstract:

The Apsaalooke [Crow] Water and Wastewater Authority (AWWA) and the Crow Environmental Health Steering Committee (CEHSC) have been collaborating on a community-based risk assessment of exposure to waterborne contaminants on the Crow Reservation, since 2006. This presentation will describe lessons learned in conducting community-based participatory research on water quality in our community (through the CEHSC), and in working to upgrade water and wastewater infrastructure in the complex legal and jurisdictional Reservation environment (as the AWWA). This risk assessment has provided the baseline surface and groundwater quality data required by the AWWA to raise funds for infrastructure improvement (> \$20 million to date); these data are also being disseminated to the community to reduce health risks from waterborne contaminants. The CEHSC, which represents diverse Tribal stakeholders, could provide a model for how federal agencies can successfully work with Reservation communities, as well as how to support local environmental research. We have learned that upgrading water and wastewater infrastructure is made substantially more difficult by the legal and regulatory gaps and jurisdictional complexities of Indian country. We will explain these challenges and solutions we have found for resolving them. While every Reservation community is different, we hope our experiences will be useful to other Tribes and to federal agencies working with them to address water quality and safe drinking water issues in Indian country. The presenter is a founding member of both the AWWA and the CEHSC, and is a Tribal member.



3. Applying a Community-based Participatory Research Framework to Assess Soil Contamination Levels in North Charleston, South Carolina

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research

Abstract:

Background: The Lowcountry Alliance for Model Communities (LAMC) neighborhoods host various hazardous waste sites, are surrounded by heavily trafficked roadways, and may be further impacted by the expansion of the Port of Charleston. The purpose of this study was to conduct a Phase I (baseline) and Phase II (follow-up) soil assessment to determine the magnitude of contamination in North Charleston, South Carolina prior to the construction of the new port terminal. **Methods:** Community members were recruited to collect soil samples in North Charleston neighborhoods. Samples were collected near heavily trafficked roadways, background and major industrial sites, brownfields, Superfund sites, schools, and community centers. Fifty samples were collected during Phase I while 150 samples were collected in Phase II. Samples were analyzed for 13 pollutants and mean, 5th, 95th and quartiles of pollutants were calculated for all neighborhoods. Correlation and respective significance levels were estimated between pollutants and minimum and maximum concentrations were documented. The USEPA's screening level data was matched by CAS number with pollutants measured in the samples. **Results:** Arsenic, barium, beryllium, cadmium, copper, iron, lead, magnesium, manganese, mercury, nickel, and zinc concentrations were measured in all samples. The Meeting & Spruill location (a heavily trafficked area) had a maximum measurement of seven pollutants which was the highest of all stations. In Phase I, arsenic concentrations were 7 times higher than the Residential Screening Level and almost 2 times higher than the Industrial Screening Level in half of the stations. In Phase II, four pollutants (arsenic, beryllium, cadmium, and mercury) had a measurement under the detection limit and cadmium had 30 (21.1% of all samples) samples under the detection limit. Arsenic concentrations were 10 times higher than Residential Screening Level and 2 times higher than the Industrial Screen Level in half of the samples. **Conclusion:** The high concentration and array of contaminants identified in samples may be indicative of the differential exposure burden among populations who live near environmental hazards in LAMC neighborhoods and in the Charleston region.



4. Can Zinc Reverse Uranium Toxicity? Potential for a Community-Based Intervention

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research

Abstract:

Many Navajo people have been, and continue to be, exposed to uranium through the legacy of uranium mining. 1100 abandoned Cold War uranium waste sites remain within Navajo communities and numerous wells exceed maximum contaminant levels for uranium and other metals such as arsenic. Certain metals can disrupt protein function by interacting with zinc finger structures and thus inhibit important cellular processes including DNA repair. Based on this mechanism, many metals are now viewed as co-carcinogens and amplify the DNA damaging capacity and tumorigenicity of other carcinogens even at levels where the metals alone are not carcinogenic. The carcinogenicity of uranium is well established in the literature, but there is little known regarding uranium interaction with zinc finger protein structures. Published reports demonstrating that uranium exposure leads to deficiency in DNA repair processes suggest that uranium may interfere with zinc finger DNA repair proteins. Our work with arsenic demonstrates that very low levels of arsenic cause zinc depletion from target zinc finger DNA repair proteins, leading to increased DNA damage and mutagenesis that can be reversed by zinc. Based on these findings, we investigated the effect of uranium on DNA repair and the activity of a specific zinc finger DNA repair protein target (PARP-1). Uranium in the form of uranyl acetate (UA) demonstrated little cytotoxicity in an immortalized human embryonic kidney cell line (HEK293) at concentrations at or below 10 μ M. UA at concentrations of 10 or 100 μ M inhibited the DNA repair protein PARP-1 and caused retention of ultraviolet radiation-induced DNA lesions (CPDs and pH2Ax). The addition of zinc ameliorated PARP-1 inhibition and partially decreased the retention of DNA damage. These findings suggest that one mechanism of uranium toxicity may rely on disruption of zinc finger protein function, so this work will inform a planned assessment of the potential for zinc to block uranium toxicity as an additional component of the Navajo Birth Cohort Study.



5. Community-Based Participatory Research Projects and Policy Engagement to Protect Environmental Health on St. Lawrence Island, Alaska

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Cumulative Risk/Exposure; Research Deserts

Track(s):

Community-Engaged Research

Abstract:

This poster synthesizes discussion of collaborative research results, interventions, and policy engagement for St. Lawrence Island during the years 2000-2012. As part of ongoing community-based participatory research (CBPR) studies with the leadership and communities of St. Lawrence Island, Alaska, five discrete exposure-assessment projects were conducted: (1) a biomonitoring study of human blood serum; (2-4) three investigations of levels of contaminants in environmental media at an abandoned military site at Northeast Cape using sediment cores and plants, semi-permeable membrane devices, and blackfish, respectively, and 5) a study of traditional foods. Blood serum in the Yupik residents of St. Lawrence Island showed elevated levels of PCBs with higher levels among those exposed to the military site at Northeast Cape, an important traditional subsistence-use area. Environmental studies at the military site demonstrated that the site is a continuing source of PCBs to a major watershed, and that cleanup operations at the military site generated PCB-contaminated dust on plants in the region. Important traditional foods eaten by the people of St. Lawrence Island showed elevated concentrations of PCBs, which are primarily



derived from the long-range transport of persistent pollutants that are transported by atmospheric and marine currents from more southerly latitudes to the north. An important task for all CBPR projects is to conduct intervention strategies as needed in response to research results. Because of the findings of the CBPR projects on St. Lawrence Island, the CBPR team and the people of the Island are actively engaging in interventions to ensure cleanup of the formerly-used military sites; reform chemicals policy on a national level; and eliminate persistent pollutants internationally. The goal is to make the Island and other northern/Arctic communities safe for themselves and future generations. As part of the CBPR projects conducted from 2000-2012, a series of exposure assessments demonstrate that the leaders and community members of St. Lawrence Island have reason to be concerned about the health and well-being of people due to the presence of carcinogenic chemicals as measured in biomonitoring and environmental samples and important traditional foods.



6. Community-Based Risk Assessment of Exposure to Waterborne Contaminants, Crow Reservation, Montana

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research;
Translation, Dissemination, and
Communication

Abstract:

Crow Reservation community members concerned about health risks from poor water quality formed the Crow Environmental Health Steering Committee (CEHSC) in 2004. Our community-based risk assessment addresses exposures to mineral and microbial contaminants via domestic, cultural, and recreational water sources. We hypothesize that rural residents are at risk due to reliance on shallow wells, subsistence practices, cultural traditions, limited financial resources to treat bad well water, and other factors characterizing Reservation communities. Our objective is to reduce health risks through research, education, mitigation, and community capacity building. Little Big Horn College (the local Tribal College), the Crow Tribal Administration and Environmental Protection and Infrastructure Departments, the Apsaalooke Water



and Wastewater Authority, the Indian Health Service Hospital, Messengers for Health, and academic partners guide this work through monthly CEHSC meetings. Little Big Horn College science majors participate as research interns. Bacterial and chemical analyses of residents' well water and of local rivers and springs were conducted. Families completed surveys to assess uses and maintenance of wells and septic systems, exposure routes from all water sources, and chronic health conditions. Key informant interviews provided qualitative data. Well water contaminants were mapped using GIS. All participating families have received a printed report and explanation of their well water test results, and in person follow-ups are being conducted. A multivariate analysis of factors associated with microbial contamination of wells is being conducted. Survey data is being analyzed against well water data to determine the extent to which families are consuming contaminated well water. Of 160+ wells tested, 54% present health risks from heavy metals, nitrates and/or coliform contamination. The metal-rich area geology, agriculture, and multiple sources of bacterial contamination are all factors. All rivers and some springs are fecally contaminated, resulting in health risks as water from these sources is consumed untreated and used for bathing in ceremonial practices and/or recreationally by children all summer. Mitigation strategies implemented include homeowner and community education, shock chlorination of wells, GIS mapping, municipal water/wastewater infrastructure improvements, and pilot testing of an affordable, high-tech home water treatment system.



7. Data Quality Challenges in a Participatory, Repeated-Measures Study with Adolescents Attending Schools near Concentrated Animal Feeding Operations

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Epidemiology; Community-Engaged Research

Abstract:

Background: Concentrated animal feeding operations (CAFOs) can produce substantial quantities of water and air pollution. North Carolina CAFOs are disproportionately located in low-income communities and communities of color. Although schools' proximity to CAFOs has been linked with prevalence of asthma-related illness in children, community health effects are difficult to investigate due to lack of medical and pollution data and industry influences. The Rural Air Pollutants and Children's Health (RAPCH) study used a participatory, repeated-measures design to investigate health impacts in adolescents attending schools near CAFOs while providing educational benefits and increasing community environmental health awareness.

Methods: In 2009, fifteen science classes (N=340 students) from three middle schools participated for 3-5 weeks in 5 sequential waves. Weekday diary reports included current symptoms and 24 hour recall of odor and time outside; participants also measured their own weekday lung function. Ambient particulate matter less than 10 μm in diameter (PM10) and hydrogen sulfide (H₂S) were measured outside of schools. Diary entries were checked daily for completeness by study staff. We used frequency counts and multivariate linear regression to examine odor reports for plausibility. We plotted air pollutants over time and used linear and logistic fixed effects regression to assess average reported levels by day in study. **Results:** 25% of students reported no episodes of livestock odor, despite home and school proximity to CAFOs. However, mean odor reported across the study period (0-4 scale) was highest for those whose families raised livestock or were involved in frequent livestock chores ($\beta = 0.27$, 95%CI = 0.16,0.38). Lung function measurements decreased and diary reports of livestock odor, illness symptoms, and time outside grew less frequent with study day for most waves. Linear trends by wave for log odds of reporting ranged from -0.041 to -0.206 for runny nose and -0.003 to -0.202 for odor. We saw no obvious time trends in ambient pollutant measurements. **Conclusions:** Measurements of most exposures and outcomes decreased over the study period, indicating study fatigue despite continued complete data and participant engagement, which can confound epidemiologic analysis of repeated-measures. Future repeated-measures studies with adolescents should carefully consider the length of study participation and strategies to maintain high data quality over time.



8. Defining Environmental Health Literacy - The University of Arizona & The University of Rochester

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Translation, Dissemination, and
Communication

Abstract:

The focus on the consequences of poor health literacy has spawned interest in specific content areas of health. As providers of environmental health information and services who have first-hand experience with the difficulties of risk communication and interpretation, we are interested in the unique content and skills associated with processing environmental health hazards. We are interested in the question, “What makes someone environmentally health literate?” We seek to answer this question by actively seeking the input of diverse groups, identifying areas of agreement, and negotiating differences. The aim of this project is to produce a consensus definition of environmental health literacy. It will use the perspectives of four groups that have an interest in environmental health information: clinicians, environmental health researchers, environmental public health educators, and users of environmental health information in the public. In depth interviews are being conducted with environmental health professionals and a grounded theory approach is being used to identify common themes regarding skills and knowledge required for identifying, understanding, and taking action regarding environmental exposures. A model describing a scale of environmental health literacy is being built based on information collected from interviews with professionals. In the next phase, users of environmental health information from the general public will be asked to participate in focus group interviews to determine how they process and use information concerning environmental health hazards and risks. The questions for the focus group interviews are being formulated based on the developing model. The focus group responses will be compared to the process and skills identified by the environmental health professionals. The final stage will be a survey of environmental health professionals across the NIEHS community, both intramural and extramural. We will use areas of agreement to develop a definition of environmental health literacy, describe the skills needed to be environmentally health literate, and compare it to how different at-risk groups process environmental information. This will set the stage for further research that includes developing comprehensive measures, identifying the consequences of low versus high EHL, and implementing methods of improving environmental health literacy.



9. Disparities, Hazards, and Health: An Assessment of Brownfields and Health Care Access in Maryland

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Epidemiology

Abstract:

Background: In order for brownfield redevelopment to be used as a tool to correct environmental injustice, we must first understand which populations are disproportionately burdened. The purpose of this study was to assess spatial disparities in the distribution of brownfields across Maryland to determine which groups are differentially burdened and then further evaluate inequalities in health care infrastructure in communities impacted by brownfields. **Methods:** The FRS 2010 brownfield state file was obtained from the US EPA's ACRES Geospatial Data Download Service. US census tract and block level data (2010) were used to enumerate population and community-level characteristics such as race/ethnicity, poverty and employment status, education, home ownership, home built before 1950, and urban area. Additional measures were used to assess segregation (Diversity Index), deprivation (Townsend index), SES (median household income), and health care infrastructure (Health Professional Shortage Areas (HPSA)). Geographic Information System (GIS) were used to map the distance between brownfields and closest census tracts. Spatial methods (mean distance analysis, buffer analysis, and spatial approximation) were employed and regression analysis was performed to evaluate the relationship between the distribution and number of brownfields and the aforementioned factors. **Results:** Low-income and non-white census tracts were located closer to brownfields. A 10% increase in black or non-white populations in census tracts decreased the distance of the census tracts to brownfields by 0.5 or 0.4 km. In contrast, increasing the white population would increase the distance to a brownfield by 0.4 km. In urban areas, the HSPA census tracts were located closer to a brownfield by 2.81 km when compared to non-HSPA census tracts (p-value <0.001) while rural areas were located closer to a brownfield by 5.16 km (p-value 0.054). **Conclusion:** Disparities exist in the distribution of brownfields in regards to race/ethnicity, socioeconomic status, segregation, and access to health care infrastructure. Through a strong revitalization plan that follows equitable development principles, brownfields can be used as a resource to promote greater sustainability and quality of life in host communities.



10. Disparities in the Burden of Disease Attributable to Drinking Water Pollution in North Carolina

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Epidemiology

Abstract:

This research is assessing disparities in access to municipal water services in North Carolina and the health effects of those disparities. The advent of community water and sanitation services was one of the greatest public health advances of the twentieth century, yet there is evidence of disparities in access to community water systems and of quality of delivered water among community water supplies. For example, evidence suggests that in North Carolina and throughout the South, policies and practices limiting voting access and segregating towns created a legacy of racial and ethnic minorities underserved by water and sanitation utilities. This poster will present preliminary findings regarding disparities in access to water services for portions of North Carolina and comparisons of cancer risks in communities with and without municipal water service. While anecdotal information provides evidence of disparities in the quality of water services in North Carolina, this project is the first systematic statewide analysis to document the extent of these disparities and quantify the resulting public health consequences.



11. Engaging East Baltimore Residents Through a “Day at the Market” Event

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Translation, Dissemination, and Communication

Abstract:

Baltimore City has 6 city-run markets for food and other vendors. One of the mechanisms by which the NIEHS Johns Hopkins Center in Urban Environmental Health has engaged community members is through an activity called “Day at the Market.” It is currently a joint Environmental Justice Partnership and Community Outreach and Education Core (COEC) program that has been ongoing for the past 6 years. This informal event engages Baltimore residents, disseminates materials, obtains feedback from the community, and promotes interactions between residents and researchers. “Day at the Market” is used to discuss environmental health issues relevant to the community; to disseminate materials; to introduce researchers and their research project to the community; and to assist investigators in the recruitment of community residents for Community Advisory Boards, focus groups and participation in translation-oriented research. We have provided information about research in environmental health and justice issues to residents including how to safeguard against environmental hazards such as lead poisoning, mold, community demolition hazards, cancer, smoking, COPD, and asthma. In 2013, we have expanded this event to two days a month through a grant from the Maryland Cigarette Restitution Fund. Accordingly, COEC is working closely with the community outreach committee of the Sidney Kimmel Comprehensive Cancer Center to assure that this event is supplied with appropriate materials.



12. Environmental Research Translation at Contaminated Sites for Improving Community Engagement and Citizen Science: The Gardenroots Case Study

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research; Translation, Dissemination, and Communication

Abstract:

Background: Challenges associated with hazardous waste and contaminated sites are persistent and complex and are compounded by the different needs and goals of involved parties. Holistic solutions that incorporate all affected parties are needed. **Objective:** As a solution, we propose Environmental Research Translation (ERT), a holistic methodology that includes a transdisciplinary research team, effective collaboration, information transfer, public participation in scientific research, and a cultural model of risk communication. **Methods:** Using Gardenroots: The Dewey-Humboldt, Arizona Garden Project as a case study, we demonstrate how implementing ERT methods led to the formation of a community-academic partnership that included a co-created citizen science program. ERT methods were used to design a place-based, community-driven project where academics and community members maintained a reciprocal dialogue, and together, successfully converted the basic findings into resources of direct use for the community members. **Results:** ERT methods improved environmental health research, information transfer, and risk communication efforts. Further, incorporating the community in the scientific process produced both individual learning outcomes (e.g. increased understanding of environmental science and the scientific process that informed their decisions) and community-level outcomes (e.g. community capacity and trust with an academic institution). One highlight of the project was the individualized booklets designed to report back the “raw” data (i.e. milligrams of arsenic per kilogram of vegetable) and how much participants could eat from their garden at different excess target risks. **Conclusions:** Our experience has shown that complex problems arise in communities neighboring a contaminated site, but implementing ERT can increase the community’s understanding and involvement in decision-making and risk communication, which can mitigate exposure and lessen the impact of the problem. Although there are challenges associated with ERT, the benefits of this proposed translational science methodology can advance environmental health research and communication efforts.



13. The Health Environment Launch Project

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research

Abstract:

Conejos County Clean Water, Inc. (CCCW), a citizens' non-profit 501(c)(3) organization based in Antonito, Colorado, is submitting this project proposal in response to the Request for Application (RFA) for the Environmental Justice Small Grants Program. The project title is Health and Environment Launch Project (HELP).

The purpose of this project is to create a baseline data set for ambient air, water, soil, and health in Conejos County with regard to radioactive, hazardous, and toxic contaminants and respective diseases that can be caused by exposure to said contaminants. A second goal is to establish an air monitor station that will have the ability to collect radioactive, hazardous, and toxic contaminants for laboratory analysis. This project proposes activities that are authorized by the Clean Water Act, Section 104 (b) (3), specifically researching, monitoring, relating to health and welfare effects of control of water pollution; Clean Air Act, Section 103 (b) research, monitoring, relating to health and welfare effects of control of air pollution; and, Toxic Substances Control Act, Section 10 (a), monitoring on toxic substances.



14. Highway Pollution and Health in Boston Chinatown: Preliminary Observations

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Cumulative Risk/Exposure

Track(s):

Community-Engaged Research

Abstract:

Boston Chinatown is a small, low-income neighborhood located next to two major highways, I-93 and I-90, a passively-vented tunnel exit on I-93 and diesel commuter rail lines. The Community Assessment of Freeway Exposure and Health study (CAFEH) measured traffic-related air pollution for one year and recruited residents in Chinatown to collect health data. Despite lower income and education, participants born in China were significantly less likely to have asthma (OR, 0.21; CI = 0.10-0.45), high cholesterol (OR, 0.47; CI = 0.30-0.72), angina (OR, 0.29; CI = 0.08-1.02), or congestive heart failure (OR = 0.14; CI = 0.03-0.60) than U.S. born whites. There were no significant differences for self-reported heart attacks, strokes, high blood pressure, diabetes, or arthritis. Mobile air pollution monitoring in Chinatown showed that there was a discernible gradient of ultrafine particles (UFP) from I-90, but not from I-93. There are occasional days with very high levels of UFP across the entire neighborhood. A sub-study looked at the variation in pollution levels and population with apartment elevation in Chinatown. UFP and PM_{2.5} were found to decrease slightly with elevation, however, since we restricted recruitment to the first four floors, vertical distance did appear to not affect UFP exposure appreciably. Chinatown poses a challenge in terms of modeling and assignment of UFP exposures due to the complexity of multiple transportation sources, street canyons, and participants living in multifamily buildings with different air circulating systems. Chinatown participants reported spending significantly more time inside of their home on work/weekday (18.27 hrs) than each of our two other neighborhoods (17.14 hrs; $P < 0.05$; and 17.33 hrs; $P < 0.05$) and traveled less on highways (0.14 hrs vs. 0.4 hrs; $p < 0.05$; and 0.41 hrs; $P < 0.05$). The demographic characteristics of the residents of Chinatown and the dense housing next to major transportation pollution sources make it an interesting neighborhood. Exposure assessment and testing associations with cardiovascular risk will be the next steps in CAFEH. There has previously been little attention paid to air pollution exposure in North American Chinatowns.



15. Hospitals for a Healthy Environment in Rhode Island

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Organization:

Northeastern University

Topic area(s):

Cumulative Risk/Exposure

Track(s):

Translation, Dissemination, and
Communication

Abstract:

The poster presentation will feature the activities of the Hospitals for a Healthy Environment in Rhode Island, a coalition that promotes cost-effective, healthy, and environmentally sustainable health care in Rhode Island. This coalition was started by the Community Outreach and Translation Core of the Brown University Children's Environmental Health Center and the Brown University Superfund Research Program, in partnership with nurses at Women and Infants Hospital (WIH). The origins at WIH were the Nurse Manager's success at removing DEHP- and PVC-based medical equipment from its Neonatal Intensive Care Unit (NICU), and our desire to spread this throughout the hospital. Under the guidance of Health Care Without Harm, Practice Greenhealth, and Maryland Hospitals for a Healthy Environment, this initiative was broadened to address a range of issues in health care, including waste management, environmentally preferable procurement, metrics for sustainability, healthy food and beverage, sustainable landscaping, greening the OR, setting up green teams to guide hospital's environmental sustainability work, and instituting the first Environmental Sustainability Awards for health care in Rhode Island. This presentation will feature our accomplishments as well as the challenges we face in promoting environmental sustainability in health care.



16. "Open Data" Practices for Environmental Health Studies

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Translation, Dissemination, and
Communication

Abstract:

Biomonitoring and other personal exposure assessments — such as chemical measurements in blood, urine, homes, and breathing space — are crucial tools for finding the environmental causes of disease, tracking trends in exposures, and investigating events like the Deepwater Horizon accident and Hurricane Sandy. As more researchers collect these valuable personal exposure measurements, sharing data online or through collaborative agreements can accelerate discovery and solve community health problems. This type of data sharing is already common for genetic information and HIPAA-protected medical records. Environmental health needs to develop parallel practices that maximize data access while protecting the privacy of study participants and communities. This poster will discuss how environmental health measurements potentially raise new ethical concerns about the possibility that the identity of study participants might be revealed even in data considered anonymized, a process called re-identification. Release of personal environmental data could result in stigma for individuals and communities; affect property values, insurance, employability, and legal obligations; or reveal embarrassing or illegal activity. It could damage trust in research as well. We will demonstrate a software tool developed by co-PI Latanya Sweeney to help people evaluate the likelihood that they can be re-identified from basic demographic data (birth date, ZIP code, and gender, a combination that uniquely identifies about 87% of the US population). In addition, we will consider data sharing issues that are unique to environmental studies. We will discuss new informed consent protocols that address online data sharing up-front, using the example of the Personal Genome Project (PGP), which requires participants to complete a novel training module about open data. We have interviewed over 30 participants in the PGP - a long-term genetic study that uses open consent and posts genetic, medical, and other study data on its website for public access. Interviews covered a variety of issues including open consent, online access to study data, re-identification, and environmental exposure data. This project is a collaboration of environmental health scientists, sociologists, and computer scientists at Silent Spring Institute, Northeastern University, and Harvard University with additional input from an advisory council that also includes community activists, ethicists, and lawyers.



17. Partners in Environmental Health Research: PBB Citizens Advisory Board and the Michigan PBB Research Team

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research

Abstract:

Background: The Michigan PBB Registry consists of ~4,000 people exposed to polybrominated biphenyl (PBB) following accidental introduction of a flame retardant compound to animal feed in Michigan (1973-1974). Although research has continued with the Registry for forty years, community engagement has been minimal. As part of the transition of the Registry to Emory University, the research team directly engages the community, with goals of disseminating research findings to those affected, providing a mechanism for community input into research, and establishing a forum for collective action to address shared concerns. Our activities to date include multimedia outreach, community meetings with presentations of research findings and roundtable discussions, and formation of a community advisory board. **Objective:** Utilize NIEHS PEPH metrics to evaluate advisory board development and ensuing collaborations. This poster shows the evolution of our partnership and research-related successes with a related logic model. **Discussion:** The PBB Citizens Advisory Board is now a valuable, active partner in the PBB Health Study. Potential board members were identified at the first PBB Community meeting, from discussions with those who expressed interest in the PBB Health Study, and from referrals by Registry members. The ten member board and the research team have met formally five times in 16 months (> 90% attendance) with regular remote interaction. The board has established its own identity via legal registration of the PBB Citizens Advisory Board, issuance of a press release and letter of introduction, and maintains a multimedia presence. Board members have served as discussion facilitators at community meetings, contributed to research design and hypotheses regarding health effects, and drafting of research results letters. The board has successfully advocated for a five-year extension from the state of Michigan to continue tracking of, and outreach to, original Registry members. **Conclusion:** Integration of qualitative and quantitative data and subsequent evaluation allows PBB researchers and the PBB Citizens Advisory Board to assess our collaboration and identify ways in which we can improve. Researchers and advisory board members alike value this collaboration and are committed to its continuation.



18. Reducing Exposure to Endocrine Disruptors from Personal Care Products in Adolescent Latinas: The HERMOSA Study

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research

Abstract:

The average woman in the U.S. uses about 12 personal care and cosmetic products (PCCPs) daily. The average man uses about 6. Many of these products contain endocrine disrupting chemicals (EDCs) including triclosan, parabens, phthalates, and oxybenzone. These EDCs have been identified as chemicals of concern because of their potential links to cancer, infertility, and developmental harm for children. Although there is little known about the distribution of human exposure to EDCs in PCCPs, data from the National Health and Nutrition Examination Survey (NHANES) indicate that exposure levels can vary by gender, age, race and income. Adolescent females and Mexican Americans were found to have higher elevated concentrations in some of the previously mentioned EDCs compared to other demographic groups. To investigate these exposures and reduce levels in a population of adolescent teens, we have initiated the community engaged research project the HERMOSA study, (an acronym for Health and Environmental Research in Make-up Of Salinas Adolescents). The project has two goals: 1) Conduct an intervention study to determine if using low-chemical PCCPs can reduce exposure levels to the four endocrine disruptors mentioned above and 2) Reduce the exposure to endocrine disruptors in Latina teens through a multi-pronged advocacy strategy. The project is a joint effort between UC Berkeley, a network of community clinics in the Salinas Valley, and a team of youth researchers.



19. Translating Popular and Scientific Knowledge to Reduce Occupational Risks among Female Farmworkers

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Topic area(s):

Cumulative Risk/Exposure; Disease Outcome

Track(s):

Translation, Dissemination, and
Communication

Abstract:

Few studies focus on how agricultural work affects female farmworker health or pregnancy outcomes and little of this research is accessible to workers. This poster presents a web-based training for female farmworkers developed through community-based participatory research (CBPR) on farmworker knowledge and perceptions of occupational and environmental risks to health and pregnancy. Guided by a community advisory board, the project team translated research results into an accessible final product, yielding an evidence-based training combining workers' knowledge with information on pregnancy health, pesticide safety, heat stress, ergonomic risk factors, and prevention measures. Research results incorporated into the training include organophosphate and fungicide exposure levels and qualitative data on pregnancy and workplace hazards and farmworker patient-doctor relations. The training uses popular education techniques, web-based interactive visual presentation, and video vignettes featuring local community members to reach low-literacy farmworker populations. It was piloted and evaluated using (1) role-play to test content assimilation and (2) focus groups to query about the delivery process. Role-play analysis showed a good level of content assimilation; whereby women demonstrated their newly acquired knowledge and resources to devise action plans, implement injury-prevention strategies, and provide assistance to workers in need. Focus group participants reported receiving valuable information and learning new content; pesticide information was rated the most useful. Participants suggested the length of the training be modified, so trainers revised and reduced it from 3.5 hours to less than 2.5 hours. The training is available in English and Spanish and can be conducted online or onsite, according to technical capability. Because it is available in an electronic format online dissemination and distribution is easy, cost-effective and can be modified to fit other fields.



20. The Use of Segregation Indices, Townsend Index, and Air Toxics Data to Assess Cancer Risk Disparities in Metropolitan Charleston, South Carolina

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Organization:

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Epidemiology

Abstract:

Background: Differences in cancer risk may exist in Metropolitan Charleston, South Carolina due to the numerous environmental hazards, port activity, and heavily trafficked roadways that are currently impacting the health of the community. The purpose of this study was to identify air toxics that may affect low-income and non-white populations in Metropolitan Charleston and to estimate cancer risk by socioeconomic status (SES) and racial/ethnic composition. **Methods:** The US EPA's National-scale Air Toxics Assessment (NATA) data for cancer risk categories were linked with 2000 census data by the Federal Information Processing Standard (FIPS) and mapped using ArcGIS version 10. Simple linear regression was calculated between all variables (segregation indices or sociodemographic variables) and cancer risk while controlling for urban-rural effects. The percentage of high cancer risk tracts (cancer risk > 90th percentile of all tracts) were calculated in each quartile (Q1 to Q4) for all variables. Relative risk and 95% confidence intervals (CI) were estimated by comparing the first and latter three quartiles. The level of significance for differences in the percentage of high cancer risk between the first and latter quartiles was calculated for all cancer risk categories. **Results:** Cancer risk from on-road sources was the highest among all sources with the exception of background sources. The Townsend Index had the highest correlation with cancer risk among all indices. Furthermore, the strongest correlation was found between the Townsend Index and all source risk (0.69) which was the highest among all variables. Although the Townsend Index had the highest R² value, cancer risk increased by only 1.3 ppl/million. In contrast, a one unit increase in the Isolation Index increased cancer risk by 12.6 ppl/million. The percent of households without a car explained 43% of the variance in cancer risk, which was the highest among all sociodemographic variables. **Conclusion:** Cancer risk disparities exist in Metropolitan Charleston which were mostly attributable to on-road sources. Policies that focus on equitable planning, zoning, and development may reduce segregation and deprivation and also environmental and health disparities.



21. Using Art as Advocacy in Communities Near the Tar Creek Superfund Site

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Topic area(s):

Cumulative Risk/Exposure

Track(s):

Community-Engaged Research; Translation,
Dissemination, and Communication

Abstract:

Communities living in and around Superfund sites experience disproportionate environmental burdens, and it can be extremely difficult for children, in particular, living in these communities to understand these inequalities and express themselves when grappling with the many effects of living near a Superfund site. In the communities surrounding one of the nation's largest Superfund site in Tar Creek, Oklahoma community leader, Rebecca Jim, and many local artists, including photojournalist Earl Dotter and photographic educator, Vaughn Wascovich, have created "art as advocacy" programs that motivate students to express their feelings about living near a Superfund site through art. Art has become a powerful way of communication for the students near Tar Creek, and they have expressed themselves using photography, poetry, written essays, digital media, painting, drawing, and video. Many of these art projects are featured at the annual Tar Creek Conference and Science Fair, which is cosponsored by the Superfund Research Program at the Harvard School of Public Health. Photographers Earl Dotter and Vaughn Wascovich have served as visiting scholars in the Harvard School of Public Health NIEHS Center for Environmental Health Outreach Program. The art as advocacy projects have not only helped students express themselves creatively over the last eighteen years, but it has given them a way to communicate important environmental health messages to their communities. We provide an overview of the environmental justice issues at Tar Creek in addition to a compilation of student artwork and success stories from the art as advocacy project.



22. Healthy Community Design in Somerville MA - Using Local Volunteers and Regional Allies to Re-Shape the Land Use / Transportation / Air Quality / Public Health Continuum

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Organization:

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Topic area(s):

Disease Outcomes; Cumulative Risk/Exposure; Research Deserts

Track(s):

Epidemiology; Community-Engaged Research; Translation, Dissemination, and Communication

Abstract:

Somerville is a diverse median income community that houses the densest population in Massachusetts - about 20,000 people per square mile. It is also overrun daily by the state's most intense traffic - 200,000 vehicle miles travelled per square mile - and diesel rail - 200 trains per day. Few of the commuters travelling through live or work here, less than 10%. Although Somerville has the second greatest density of immigrants and of college educated adults out of the 351 municipalities in the state, we also have the greatest shortage of local employment relative to resident workers - a jobs deficit of over 5,000 per square mile. The city is also strained by a lack of commercial tax base and a severe shortage of public green space - less than two acres per 1000 residents. In part led by two volunteer based community groups, the Mystic View Task Force (MVTf) and Somerville Transportation Equity Partnership (STEP), the city is evolving toward a robust clean transit and active transportation system and, hopefully, a more sustainable live work balance, while also protecting housing alternatives and small business diversity. Construction is underway here on the state's first new subway station and first two new light rail branches in a generation, a billion dollar investment, as well as the extension of a regionally significant community path. Access to clean rail-based transit will go from 15% of the population to 85% in a few short years. Local job development will be able to be based on the new transit, rather than on the highways and diesel rail which have been local environmental burdens. Five million square feet of transit oriented mixed use are underway on Somerville's previously neglected Mystic River waterfront and the new Comprehensive Plan calls for a balance of workers and jobs within 25 years. Attention to the serious local health disparities associated with large regional highway and diesel rail networks, aided by translation of environmental health literature, has been at the forefront of our advocacy and helped to re-shape Somerville. Along with these changes, in partnership with Tufts University, we have evolved from an environmental health science desert into a significant center of community based participatory research.



23. Using public School Enrollment Records for Examining Asthma in School Children in Eugene, Oregon

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Topic area(s):

Disease Outcomes

Track(s):

Epidemiology

Abstract:

Residents in Eugene, Oregon are concerned by poor respiratory health and emissions from local industrial activity. Community concerns have focused on Eugene's industrial corridor and adjacent neighborhoods in the 97402 zip code. The US EPA toxic release inventory industrial site density is highest in 97402. Over 90% of Eugene's reported air toxics releases from regulated sites are located in 97402. Households in 97402 have the highest level of residents below the poverty-line and the highest percentage of Hispanics compared to the other five zip codes that comprise Eugene (2010 U.S. Census). Community groups in 97402 partnered with Beyond Toxics, a non-profit organization that works to guarantee environmental protection and health for all communities and residents. Beyond Toxics was awarded a US EPA Environmental Justice grant to investigate these concerns, which was completed in 2012. This spurred Beyond Toxics to obtain additional data from public schools in Eugene (N=43) that indicate if a child currently has asthma (N=21,740). Beyond Toxics shared this information with public health researchers at Oregon State University's Environmental Health Sciences Center, who examined geographical distribution of asthma prevalence and its relationship with the percentage of children who qualified for a free lunch. This data showed asthma prevalence in Eugene was 8.6%, 10.9%, and 10.7% in children enrolled in elementary, middle, and high schools, respectively. A comparison by school district showed that the children in 97402 had significantly higher asthma prevalence compared to children enrolled in the other five zip codes (14.3% vs. 8.1%). This trend was observed in elementary school students (10.9% vs. 7.6%) and middle/high school students (18.5% vs. 8.5%). We also observed that children from low-income schools (defined as the upper 75th percentile of qualifying for the federal free lunch program) had significantly higher odds of asthma (odds ratio = 1.33; 95%CI: 1.19-1.49) compared to children from higher-income schools. These initial observations of asthma prevalence patterns by zip code and low-income school status warrant further investigation. Employing community-based participatory research is ideal to determine if childhood asthma is associated with air pollution by geographical area and socioeconomic factors in Eugene. Such research can inform and empower residents regarding their environmental health.



24. The ALERT Model: Advancing Community-Based Research through Environmental Health Data Capacity and Co-Learning Activities

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Topic area(s):

Research Deserts

Track(s):

Community-Engaged Research

Abstract:

Assessment of Local Environmental Risk Training to Reduce Health Disparities (ALERT) is a training and education project designed to foster community-academic partnerships to address disproportionate exposure to air pollution among communities of color, low-income neighborhoods, and immigrant populations in Los Angeles County. The ALERT project trained community members and groups to understand and use scientific data on air quality, while also enhancing the ability of academics and researchers to work with communities through co-learning activities, including a train-the-trainer course and subsequent workshops and events. ALERT demonstrated the efficacy of a model for fostering trust and collaboration among community members and researchers. To realize actual collaboration, ALERT funded two pilot studies during the course of the project. Community members expressed high motivation to advance collaboration with researchers and to explore potential studies to expand their knowledge of environmental factors that impact their health. The train-the-trainer course increased community members confidence towards taking actions, which also revealed frustration when there was a lack of opportunities to move forward. In response to community concern, project partners sought and obtained additional funding through the CDC REACH CORE program that built upon the environmental health action plans produced in the ALERT project. The subsequent project, Turning Data into Action: Fighting Air Pollution in Two Immigrant Communities (TDA), engaged ALERT participants and expanded community stakeholders in a strategic planning process to assess policy and system changes needed to reduce disproportionate exposure to air pollution and its effect on asthma, cardiovascular disease, and birth weight. Both ALERT and TDA highlighted the value of data capacity for communities with disproportionate exposure to air pollution, and they revealed an increased interest in efforts to advance community-researcher engagement.



25. Community Outreach and Education Core (COEC): Increasing Capacity of Environmental Public Health Issues and Policy Strategies

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Topic area(s):

Research Deserts

Track(s):

Community-Engaged Research; Translation, Dissemination, and Communication

Abstract:

The Community Outreach and Education Core (COEC) is part of the NIEHS-funded University of Michigan (UM) Environmental Health Science (EHS) Lifestage Exposure and Adult Disease (LEAD) Center. The COEC fosters enhanced understanding among community members, policymakers and public health decision-makers concerning the role of environmental exposures in adult disease. The UM EHS LEAD Center specifically focuses on how environmental exposures over the lifecourse are linked to asthma, early life development, diabetes, and cancer through three pathways: epigenetic regulation, oxidative stress, and endocrine disruptors. Detroit and southeast Michigan, in particular, are disproportionately impacted by environmental exposures (e.g., air pollution) and have reduced access to resources that might protect against the negative effects of those exposures (e.g., access to foods rich in antioxidants), thus increasing vulnerability to negative effects of those exposures. Over the lifecourse, these increased environmental exposures and increased vulnerabilities contribute to racial, ethnic, and socioeconomic health disparities. We will describe the activities used to increase awareness among community members that build policy advocacy skills used to promote improved environmental health decisions made by policy makers at the local, state, and federal level. The activities include policy fact sheets and community policy advocacy training providing the community with the capacity needed to serve as their own advocate for improved environmental health conditions. Additionally, we will describe activities used to increase the awareness of community members and decision makers of recent scientific findings on the association between environmental exposures across the lifestage and adult disease. The activities include the development of the Oxidative Stress in Your Everyday Life video, a video on endocrine disruptors and early life development, and fact sheets.



26. Developing a Research Oasis for Farmworkers: The Community Based Research Network

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Topic area(s):

Research Deserts

Track(s):

Community-Engaged Research

Abstract:

U.S. farmworkers experience a disproportionate frequency of injuries and illnesses associated with their work and significant barriers to health care access. The lack of aggregated longitudinal health data on this vulnerable population has created a research desert that has severely limited opportunities to conduct research to improve their health status. Funded by the National Institute of Environmental Health Sciences over the past three years, we have built a national community-based research network anchored by a reciprocal and equitable partnership between well-established farmworker community advocates, clinics, and dedicated academic leaders that will transform the capacity to conduct such research. The consortium of six existing HRSA-funded Community/Migrant Health Centers will provide the necessary infrastructure — both a cooperative framework and an electronic linkage of medical data — to build previously unattainable research opportunities capable of addressing both preventive (including occupational exposures) and primary care services in relation to adverse health outcomes for this at-risk population. Future research will be guided by mutually-engaged partners including health care providers, community health organizations, and academic researchers. We have initiated an evaluation of the frequency and strength of our community-academic partnership that we have built over these last three years. With a goal to build trust with our research partners and participants, we are also developing a webinar to highlight and promote ethical research practices that maximize health and community benefits and reduce risk as much as possible, and to contribute to high-impact research by applying principles of community-based participatory research. The electronic linkage and resulting database will finally provide the basis for a national source of medical data to conduct research to improve health outcomes, reduce health disparities, and increase access to health care for underserved populations, including immigrant, Latino, and young workers in the agricultural sector. Expansion of this research network to other Community/Migrant Health Centers could evolve into a pioneering demonstration of a national health information exchange.



27. Developing Novel, Collaborative Models for Tribal Environmental Health Research

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Organization:

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Topic area(s):

Research Deserts

Track(s):

Community-Engaged Research

Abstract:

Tribes generally lack the resources and expertise to address pressing environmental health research on Native lands. We are developing a working model where a lead tribal college, acting as a “Center,” would coordinate the research interests of a larger tribal consortium, or “Network.” Native undergraduate and graduate students at partnering tribal colleges and native-serving mainstream institutions represent a human resource that could be used to address these issues in a culturally competent way. Through the Network, individual projects that would be difficult to fund as stand alone proposals, make up a much larger portfolio that could be more attractive to funding institutions, while at the same time, providing the students with valuable research experiences and ownership of their science. This model was successfully tested by the Department of Life Sciences (LS), Salish Kootenai College (SKC) - a tribal college on the Flathead Indian Reservation in western Montana acting as the “Center,” and the Aroostook Band of Micmac in northern Maine. From a distance of nearly 3,000 miles, a pilot community-based participatory research (CBPR) project was developed and executed during the summer of 2012. SKC LS faculty and students traveled to Maine and worked with the Micmac community to establish a Micmac Research Steering Committee (MRSC), developed a CBPR project to examine fish consumption patterns among Micmac women of childbearing age and to assess the potential of individuals for risk from mercury exposure from this traditional food. Local Micmac community members were trained by SKC LS students to administer the consumption surveys and take hair samples from Micmac volunteers. Hair samples and completed surveys were collected at the end of the summer during a return visit. SKC LS students performed the hair mercury survey analyses back in Montana. The data was then shared with the MRSC and disseminated to the community.



28. Environmental Health Disparities Intervention Research at UNM

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Topic area(s):

Research Deserts

Track(s):

Community-Engaged Research

Abstract:

The Environmental Health Core (EHC) of the New Mexico CARES Health Disparities Center, represents a shift in focus from studying environmental health (EH) problems to creating effective, sustainable solutions to reducing EH disparities in New Mexico. Applying NIEHS Partnerships for Environmental Public Health (PEPH) Program evaluation metrics, we examine the activities, products, and impacts of the EHC towards attaining our goals. We apply the PEPH evaluation metrics to critique our progress in establishing EH intervention research that is based on sound research practices, informed by community needs, and focused on identifying and informing EH knowledge gaps in policy and clinical care. The three aims of the EHC are systematically assessed based on the evaluation criteria. EHC investigators have built upon established partnerships with communities, researchers, policy makers, and health care providers state-wide. A central tenet of our evaluation focuses on how the EHC activities meet the needs of these community partners.



29. Environmental Justice: How Certain? Constructing Proper Confidence Intervals from Aggregated Geospatial Data Using Stochastic Simulation

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Organization:

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Topic area(s):

Research Deserts

Track(s):

Epidemiology

Abstract:

Despite widespread citizen and academic interest in environmental justice (EJ), EJ researchers continue to use statistical tools developed for causal inference from experimental data, such as data from Randomized Controlled Trials (RCTs). Several authors have identified problems with applying these methods to EJ studies, most notably the problems of interference and spatial dependence of analytic units. Here, I illustrate a third problem: that traditional measures of precision used for RCTs are premised on describing sampling error and ignoring measurement error. EJ studies are typically built on data with negligible sampling error and bounded measurement error induced through spatial aggregation, suggesting a systematic underestimate of precision in the existing EJ literature. Here, I propose a simple alternative method of quantifying the uncertainty induced through spatial aggregation through an extensible stochastic simulation. The example of airborne toxic release in Louisiana is used to demonstrate the technique, which is widely applicable to EJ studies using U.S. Census data and can simultaneously accommodate variables aggregated at different spatial scales.



30. The Impact of Worker Education and Training on Communities: A Qualitative and Quantitative View

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Organization:

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Topic area(s):

Research Deserts

Track(s):

Community-Engaged Research

Abstract:

The Minority Worker Training Program (MWTP) was established in September 1995 by the National Institute for Environmental Health Sciences to provide a series of national pilot programs to test a range of strategies for the recruitment and training of young persons. These are individuals who live near hazardous waste sites or in the community at risk of exposure to contaminated properties with the specific focus to obtain work in the environmental field. These environmental career-oriented projects are developed within the context of other social and health needs of the community. The main goal of this program is to increase the number of underrepresented minorities in the construction and environmental remediation industries. This poster presentation will deliver information about the NIEHS Worker Education Training Program and will focus on the Deep South Center for Environmental Justice's MWT Program. The presentation will highlight the program administration's holistic approach to workforce development training, addressing the academic, social, psychological and physical needs of the trainees. The presentation will include information on the training program's structure which includes outreach and recruitment, basic and job readiness skills development, environmental justice, career training, job placement and tracking.



31. Restoring The Research Desert In American Indian Communities

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Organization:

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Topic area(s):

Research Deserts

Track(s):

Community-Engaged Research

Abstract:

We know a research desert exists in American Indian communities because of a plethora of comments such as, “They study us and our problems, but the research does not benefit us or the community; it only benefits the researcher, and once the study has ended, we never want to see the researcher (or any other researcher) again.” This poster identifies the problems in Arizona that have impacted research in American Indian communities. It addresses restoring the research desert by presenting principles for best practices for researchers and outreach personnel to adopt and follow when approaching American Indian individuals, entities, and communities to investigate and promote information about environmental health. Suggestions to researchers emanate from the understanding that tribes are sovereign nations and from the principles of tribal control of the process and data generated by research. How the Southwest Environmental Health Sciences Center (SWEHSC) has developed relationships and trust with tribal communities in Arizona over the past ten years is discussed. Building trust with the Gila River Indian Community was essential for development of interactions and collaborations with other tribes and the Inter Tribal Council of Arizona (ITCA). Lindsey, the SWEHSC community outreach and engagement core director, became a member of the coordinating group of the Gila River Indian Community Community Action for a Renewed Environment (CARE) project. This group includes (i) community members, (ii) employees from the Gila River Indian Community Departments of Environmental Quality (DEQ) and Public Health, and (iii) members from ITCA. This led to the development of messages and materials for the Gila River Indian Community and to Environmental Health Leadership Trainings. SWEHSC members spoke about; “Environmental Causes of Cancer” (Lantz), “Air Pollution and Human Health” (Riley), “Environment and Genetics Interactions” (Klimecki), and “Asthma, the Environment, and the National Children’s Study” (Martinez). Lindsey has partnered with ITCA to present environmental health information to environmental managers and staff every six months since 2008, presenting virtually in April 2013. The Environmental Director’s thank you note included: “Although you were not able to be present, we appreciate you sending us the video, which served as the next best thing to having you there doing the presentation. We look forward to seeing you at the next meeting and future collaborations.”



32. Building Partnerships with Communities to Address the Unique Contributions of Environment to Health Disparities

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Topic area(s):

Other

Track(s):

Community Engaged Research

Abstract:

The National Institute of Environmental Health Sciences (NIEHS) has a history of commitment to Environmental Health Disparities (EHD) research. These programs address inequitable exposures among vulnerable populations through communication, capacity building, and research. They highlight local community needs for health care or policy change that would address exposure related health outcomes and provide evidence that action taken by communities leads to positive results.

This poster addresses the importance of engaging communities in EHD research projects and highlights three examples of community-engaged research that align with the NIH HD Strategic Plan. It also makes the case that environmental stressors need to be incorporated as a recognized component in the national health disparities research agenda.



33. NIEHS Investment in Social and Behavioral Research: Exploring the Totality of Exposures to Understand the Multiple Causes of Diseases

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Topic area(s):

Other

Track(s):

Community Engaged Research; Translation, Dissemination, and Communication

Abstract:

Since 2008, NIEHS has provided over \$75M in support for social and behavioral studies. Over 100 of the projects funded by NIEHS since 2008 have focused on the exploration of the social determinants of health in the context of environmental exposures. Research topics of current interest and that are included in the 2012 NIEHS strategic plan include community engagement research, capacity building, community and individual resilience and Environmental health disparities (EHD) and Environmental Justice (EJ). In addition, since 2008, NIEHS has supported over 20 projects that explored behavioral aspects in the context of EHS. Several of NIEHS' landmark environmental health science (EHS) programs focus on or include BSSR components including autism research, Breast Cancer and the Environment Research Program, Centers for Children's Environmental Health and Disease Prevention Research, Deepwater Horizon Research Consortium, and the Partnerships in Environmental Public Health network of projects and programs.

Lessons learned from the NIEHS investment in social and behavioral research include the recognition of the complexity of risk communication given uncertainties about the etiology of disease from specific exposures or the effects of multiple exposures over the lifespan; the value of community engagement in research to ensure culturally appropriate translation and implementation of findings, e.g. community-based prevention or mitigation activities, or the initiation of policy or regulatory change; and the link between heavy metal and other environmental factors on neurodevelopment and neurobehavior.



34. Partnerships for Environmental Health Resource Center: Connect & Share

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Topic area(s):

Other

Track(s):

Community Engaged Research; Translation, Dissemination and Communication

Abstract:

Through the Partnerships for Environmental Public Health (PEPH) program, the NIEHS has supported the PEPH Resource Center (<https://connect.niehs.nih.gov/peph/index.cfm>) to foster sharing and exchange of materials created by NIEHS grantees and community partners that are part of the PEPH network. A goal of the Resource Center has been to reduce the duplication of efforts, promote interactions, and stimulate the advancement of new communication strategies. As a tool for grantees and their partners, the PEPH Resource Center facilitates entry, management, viewing, and publishing of educational and outreach materials.

This poster highlights the “Connect” and “Share” aspects of the Resource Center and emphasizes user benefits. Over the past year, we have made exciting changes to the Resource Center based on user feedback. These enhancements include:

- Grantee user profiles
- “Trending Topics/Materials” on the Resource Center homepage
- Comment functions that allow users to give and receive peer-feedback on published materials
- A Resource Center user’s listserv

These social media-like enhancements should increase the ability of PEPH grantees and community partners to share, connect, and collaborate, so that the PEPH network can increase the impact of environmental public health research.



35. PEPH Evaluation Tools

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Topic area(s):

Other

Track(s):

Translation, Dissemination, and
Communication

Abstract:

This poster will highlight evaluation tools available to PEPH grantees, including the PEPH Evaluation Metrics Manual and an associated web-based training. The poster will detail the components of the metrics manual, including the logic models, Metrics in Action examples, case studies, and metrics examples. The poster will also provide information on a web-based training that is available to complement the metrics manual.

